

REMARKS

Claims 1-15 are pending in the present application.

This Amendment is in response to the Office Action mailed August 1, 2001. In the Office Action, the Examiner rejected claims 1-15 under 35 U.S.C. § 112, second paragraph, and claims 1-15 under 35 U.S.C. § 102(b). Applicants have amended Claims 1, 3, 4, 5, 8, 14 and 15. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

I. REJECTION UNDER 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 1-15 under 35 U.S.C. §112, second paragraph. Applicants have amended claims 1, 4, 5, 8 and 14 to clarify the claim language.

The Examiner states that it is unclear what the subsets which correspond to different groups of audio channel means (Office Action, page 2, second paragraph). Applicants respectfully direct the Examiner's attention to the Specification, page 6 (lines 16-18), page 10 (lines 4-10; lines 19-23), and page 11 (lines 8-13). As an example, suppose there are 16 audio channels and 4 memory banks (banks 0, 1, 2 and 3). A possible allocation scheme for this system is as follows.

Bank 0 stores audio data from channels 0, 4, 8, 12 (Group A)

Bank 1 stores audio data from channels 1, 5, 9, 13 (Group B)

Bank 2 stores audio data from channels 2, 6, 10, 14 (Group C)

Bank 3 stores audio data from channels 3, 7, 11, 15 (Group D)

Therefore, each bank stores a subset of audio data from different groups of the audio channels. For example, Bank 0 stores data from Group A consisting of channels 1, 4, 8 and 12. Bank 1 stores data bank from Group B consisting of channels 1, 5, 9, 13, etc. In essence, the memory banks store subsets of audio data from different groups of audio channels.

The Examiner further states that it is unclear why the memory banks would be selected to be accessed when each memory bank is being accessible. In response, Applicants submit that "accessible" means "easily approached" or "capable of being reached". In order to be actually accessed, a memory bank is selected. As an example, a statement like "the information is accessible to the public" does not necessarily mean that the information is actually accessed by a private citizen. This information still has to be selected for access.

Accordingly, Applicants respectfully request the rejection under 35 U.S.C. §112 be withdrawn.



II. REJECTION UNDER 35 U.S.C. § 102(b)

In the Office Action, the Examiner rejected claims 1-15 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,636,942 issued to Chen et al. ("Chen"). Applicants respectfully traverse the rejections for the following reasons:

Chen discloses a computer vector multiprocessing control. A central memory is provided for two processors. Each processor has a respective data path and respective control path to the central memory (Chen, col. 4, lines 65-68). The two processors are identical and symmetric (Chen, col. 5, lines 50-51). The central memory is provided with eight ports, with four ports associated with each processor (Chen, col. 10, lines 31-32). There is no storage of real-time audio data associated with audio channels.

Chen does not disclose, suggest, or render obvious memory banks storing real-time audio data from audio channels at an audio sampling rate. This aspect of the present invention is supported in the Specification on page 6 (lines 5-7; lines 16-17), page 10 (lines 4-10), and page 11 (lines 5-7), and is recited in amended claims 1 and 5 as follows. Such amendments neither narrow the scope of the above identified claims nor relate to the statutory requirements for patentability.

“... storing subsets of real-time audio data from a plurality of audio channels... at an audio sampling rate...” (Amended Claims 1 and 5).

To anticipate a claim, the reference must teach every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 321, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Since the Examiner failed to show that Chen teaches or discloses memory banks storing real-time audio data from audio channels at an audio sampling rate, the rejection under 35 U.S.C. §102(b) is improper.



Therefore, Applicant believes that independent claims 1 and 5 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §102(b) be withdrawn.



VERSION WITH MARKINGS TO SHOW CHANGES MADE

1 1. (Three Times Amended) A method [for allocating real-time audio data from a
2 first plurality of audio channels in a system having a first processor and a second processor, the
3 method] comprising:

4 providing a [second] plurality of memory banks of semiconductor memory devices, each
5 memory bank being accessible to [the] first and second processors for operations selected from
6 [the group comprising] read and write operations; and

7 storing subsets of [said] real-time audio data from a plurality of audio channels in the
8 [second] plurality of memory banks at an audio sampling rate, the subsets corresponding to
9 different groups of the audio channels.

1 2. (Amended) The method of claim 1, further comprising selecting said memory
2 banks for access by one of the first and second processors.

1 3. (Twice Amended) The method of claim 1 wherein the [second] plurality of
2 memory banks includes two memory banks.

1 4. (Amended) The method of claim 3 wherein [one] a first subset of said [audio
2 data] subsets corresponds to even-numbered audio channels and [one other] a second subset of
3 said [audio data] subsets corresponds to odd-numbered audio channels.

1 5. (Three Times Amended) A system [having first and second buses for processing
2 real-time audio data from a first plurality of audio channels, the system] comprising:

3 first and second buses;

4 a first processor and a second processor coupled to said first and second busses,
5 respectively; and

6 a [second] plurality of memory banks of semiconductor memory devices coupled to said
7 first and second buses for storing [said] subsets of real-time audio data from a plurality of audio
8 channels at an audio sampling rate, said [second] plurality of memory banks being accessible to
9 the first and second processors for operations selected from [the group comprising] read and

10 write operations, [said second plurality of memory banks storing subsets of audio data,] said
11 subsets corresponding to different groups of the audio channels.

1 6. (Amended) The system of claim 5 further comprises a plurality of selectors
2 coupled said first and second buses to select said memory banks for access by one of said first
3 and second processors.

1 7. (Amended) The system of claim 6 wherein the plurality of selectors include a
2 plurality of address multiplexers and data transceivers.

1 8. (Amended) The system of claim 5 wherein [one] a first subset of said [audio
2 data] subsets corresponds to even-numbered audio channels and [one other] a second subset of
3 said [audio data] subsets corresponds to odd-numbered audio channels.

1 9. (Amended) The system of claims 5, wherein the memory banks include dynamic
2 random access memories.

1 10. The method of claim 1, wherein storing further comprises interleaving the subsets
2 of data.

1 11. The system as set forth in claim 5, wherein the subsets are stored in the memory
2 banks in an interleaving manner.

1 12. The method of claim 1, wherein storing comprises storing one of the subsets of
2 audio data in one of the memory banks, said method further comprising reading stored audio data
3 from a second of the memory banks.

1 13. The method as set forth in claim 1, wherein the first processor performs a read
2 operation on a first memory bank of the plurality of memory banks and the second processor
3 performs a write operation on a second memory bank of the plurality of memory banks.

1 14. (Amended) The system of claim 5, wherein subsets of audio data are stored in
2 [one] a first memory bank of the memory banks and stored audio data is read from a second
3 memory bank of the memory banks.

1 15. (Amended) The system [as set forth in] of claim 5, wherein the first processor
2 performs a read operation on a first memory bank of the plurality of memory banks and the
3 second processor performs a write operation on a second memory bank of the plurality of
4 memory banks.

CONCLUSION

In view of the amendments and remarks made above, it is respectfully submitted that the pending claims are in condition for allowance, and such action is respectfully solicited.

Respectfully submitted,

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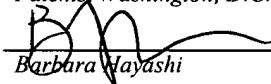
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on: December 3, 2001.


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